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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/507,024	12/23/2004	Michelle A. Raymond	H0003511	7663

128 7590 12/20/2007

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EXAMINER	
CHEN, QING	
ART UNIT	**PAPER NUMBER**
2191	

MAIL DATE	DELIVERY MODE
12/20/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/507,024	RAYMOND ET AL.	
	Examiner	Art Unit	
	Qing Chen	2191	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 October 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *42-80* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *42-80* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This Office action is in response to the RCE filed on October 19, 2007.

2. **Claims 42-80** are pending.

3. **Claims 42, 46, 52, 56, 62, 66, 72, and 75** have been amended.

4. **Claims 1-41** have been cancelled.

5. The objection to the specification is withdrawn in view of Applicant's amendments to the specification.

6. The objection to Claim 72 is withdrawn in view of Applicant's amendments to the claim.

7. The 35 U.S.C. § 112, second paragraph, rejections of Claims 42-61, 66, 67, 75, and 76 are withdrawn in view of Applicant's amendments to the claims. However, Applicant's amendments to Claims 62 and 72 fail to fully address the rejection due to insufficient antecedent basis. Accordingly, this rejection is maintained and further explained below.

8. The 35 U.S.C. § 101 rejections of Claims 72-80 are withdrawn in view of Applicant's amendments to the claims.

Response to Amendment

Specification

9. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 112

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11. **Claims 62-80** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 62 and 72 recite the limitation "the requirements." There is insufficient antecedent basis for this limitation in the claims. In the interest of compact prosecution, the Examiner subsequently interprets this limitation as reading "a set of requirements" for the purpose of further examination.

Claims 63-71 depend on Claim 62 and, therefore, suffer the same deficiency as Claim 62.

Claims 73-80 depend on Claim 72 and, therefore, suffer the same deficiency as Claim 72.

Claim 72 recites the limitation "[a] computer readable medium comprising instructions." The claim is rendered indefinite because computer instructions can only be stored or recorded on a computer readable medium. In the interest of compact prosecution, the Examiner subsequently

interprets this limitation as reading "[a] computer readable medium storing instructions" for the purpose of further examination.

Claims 73-80 depend on Claim 72 and, therefore, suffer the same deficiency as Claim 72.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

13. **Claims 42-45, 49, 52-55, 59, 62-65, 69, 72-74, and 78** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Eisenstein et al., "Applying Model-Based Techniques to the Development of UIs for Mobile Computers," 2001 (hereinafter "Eisenstein")** in view of **Puerta et al., "Towards a General Computational Framework for Model-Based Interface Development Systems," 1999 (hereinafter "Puerta")**.

As per **Claim 42**, Eisenstein discloses:

- receiving a domain model, a user model, a task model, a device model, and a presentation elements library, wherein the domain model defines application requirements for which the user interface is to be used, wherein the user model defines user requirements of users

who are to interface with the user interface, wherein the task model defines task requirements of tasks to be performed between the user interface and users, wherein the device model defines interaction delivery devices that are available to deliver the user interface, and wherein the presentation elements library contains a set of display objects used to present information to or acquire information from a user of the user interface being designed *(see Figure 2; Page 70, "A platform model describes the various computer systems that may run a UI. This model includes information regarding the constraints placed on the UI by the platform. The platform model contains an element for each platform that is supported, and each element contains attributes describing features and constraints." and "A presentation model describes the visual appearance of the user interface. The presentation model includes information describing the hierarchy of windows and their widgets (e.g., sliders, list boxes), stylistic choices, and the selection and placement of these widgets."; Page 71, "A task model is a structured representation of the tasks that the user of the software may want to perform. The task model is hierarchically decomposed into subtasks, and information regarding goals, preconditions, and postconditions may be supplied." and "For many applications, it is essential to model the users themselves, especially when there are multiple users with different preferences, abilities, and privileges. It is also often appropriate to model the domain characteristics of the tasks supported by the UI. Such information often guides the selection of widgets.")*;

- generating a set of presentations, wherein each presentation in the set of presentations comprises an interaction delivery device and a display object that meets a set of requirements of the interaction delivery device, wherein the interaction delivery device is selected from a set of interaction delivery devices in the device model that meets the task requirements defined by the

task model, and wherein the display object is selected from the set of display objects in the presentation elements library that meets the task requirements defined by the task model and the application requirements defined by the domain model *(see Figures 2 and 3; Page 74, "The designer should create mappings between platforms (or classes of platforms) and tasks (or sets of tasks). Additional mappings are then created between task elements and presentation structures that are optimized for a given set of tasks. We can assume these mappings are transitive; as a result, the appropriate presentation model is associated with each platform, based on mappings through the task model.")*; and

- displaying the set of presentations to a user interface designer *(see Page 72, "Under our proposed architecture, it is still left to the interface designer to specify a set of alternative presentation structures.")*.

However, Eisenstein does not disclose:

- wherein the interaction delivery device is selected from a set of interaction delivery devices in the device model that meets the user requirements defined by the user model, and wherein the display object is selected from a set of display objects in the presentation elements library that meets the application requirements defined by the domain model.

Puerta discloses:

- wherein the interaction delivery device is selected from a set of interaction delivery devices in the device model that meets the user requirements defined by the user model, and wherein the display object is selected from a set of display objects in the presentation elements library that meets the application requirements defined by the domain model *(see Page 173, "Each user may be involved in all tasks in a user-task model, or just in a subset of these tasks.*

The assignment of users to tasks is a mapping process."; Page 174, "An interface model must also define what objects are involved in the completion of the tasks represented in its user-task model component. Thus it is necessary to map objects to tasks in an interface model.").

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Puerta into the teaching of Eisenstein to include wherein the interaction delivery device is selected from a set of interaction delivery devices in the device model that meets the user requirements defined by the user model, and wherein the display object is selected from a set of display objects in the presentation elements library that meets the application requirements defined by the domain model. The modification would be obvious because one of ordinary skill in the art would be motivated to build and refine the interface model to produce a user interface *(see Puerta – Page 171).*

As per **Claim 43**, the rejection of **Claim 42** is incorporated; and Eisenstein further discloses:

- responsive to at least one input from the user interface designer, generating the user interface *(see Figures 6 and 7).*

As per **Claim 44**, the rejection of **Claim 42** is incorporated; and Eisenstein further discloses:

- wherein generating a set of presentations is performed by a reasoning engine *(see Figure 3; Page 72, "This mediator should determine the maximum usable screen resolution for the relevant device, and evaluate the amount of screen resolution required by each presentation*

structure alternative. It can then select the presentation structure that consumes an amount of screen resolution that falls just under the maximum (fig. 3).").

As per **Claim 45**, the rejection of **Claim 42** is incorporated; and Eisenstein further discloses:

- matching capabilities of the interactive delivery devices in the device model to task requirements defined in the task model *(see Figure 5; Page 74, "The designer should create mappings between platforms (or classes of platforms) and tasks (or sets of tasks). Additional mappings are then created between task elements and presentation structures that are optimized for a given set of tasks. We can assume these mappings are transitive; as a result, the appropriate presentation model is associated with each platform, based on mappings through the task model.")*; and

- matching capabilities of display objects in the presentation elements library to task requirements defined in the task model *(see Figure 5; Page 74, "Additional mappings are then created between task elements and presentation structures that are optimized for a given set of tasks.").*

However, Eisenstein does not disclose:

- matching capabilities of the interactive delivery devices in the device model to user requirements defined in the user model; and

- matching capabilities of display objects in the presentation elements library to application requirements defined in the domain model.

Puerta discloses:

- matching capabilities of the interactive delivery devices in the device model to user requirements defined in the user model *(see Page 173, "Each user may be involved in all tasks in a user-task model, or just in a subset of these tasks. The assignment of users to tasks is a mapping process.")*; and

- matching capabilities of display objects in the presentation elements library to application requirements defined in the domain model *(see Page 174, "An interface model must also define what objects are involved in the completion of the tasks represented in its user-task model component. Thus it is necessary to map objects to tasks in an interface model.")*.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Puerta into the teaching of Eisenstein to include matching capabilities of the interactive delivery devices in the device model to user requirements defined in the user model; and matching capabilities of display objects in the presentation elements library to application requirements defined in the domain model. The modification would be obvious because one of ordinary skill in the art would be motivated to build and refine the interface model to produce a user interface *(see Puerta – Page 171)*.

As per **Claim 49**, the rejection of **Claim 42** is incorporated; and Eisenstein further discloses:

- wherein the domain model, the user model, the task model, and the device model are expressed in a common notation format *(see Page 70, "The MIMIC modeling language meets these criteria, and it is the language we have chosen to use for UI modeling.")*.

As per **Claim 52**, Eisenstein discloses:

- creating a domain model, a user model, a task model, a device model, and a presentation elements library, wherein the domain model defines application requirements for which the user interface is to be used, wherein the user model defines user requirements of users who are to interface with the user interface, wherein the task model defines task requirements of tasks to be performed between the user interface and users, wherein the device model defines interaction delivery devices that are available to deliver the user interface, and wherein the presentation elements library contains a set of display objects used to present information to or acquire information from a user of the user interface being designed *(see Figure 2; Page 70, "A platform model describes the various computer systems that may run a UI. This model includes information regarding the constraints placed on the UI by the platform. The platform model contains an element for each platform that is supported, and each element contains attributes describing features and constraints." and "A presentation model describes the visual appearance of the user interface. The presentation model includes information describing the hierarchy of windows and their widgets (e.g., sliders, list boxes), stylistic choices, and the selection and placement of these widgets."; Page 71, "A task model is a structured representation of the tasks that the user of the software may want to perform. The task model is hierarchically decomposed into subtasks, and information regarding goals, preconditions, and postconditions may be supplied." and "For many applications, it is essential to model the users themselves, especially when there are multiple users with different preferences, abilities, and privileges. It is also often appropriate to model the domain characteristics of the tasks supported by the UI. Such information often guides the selection of widgets.")*;

- generating a set of presentations, wherein each presentation in the set of presentations comprises an interaction delivery device and a display object that meets a set of requirements of the interaction delivery device, wherein the interaction delivery device is selected from a set of interaction delivery devices in the device model that meets the task requirements defined by the task model, and wherein the display object is selected from the set of display objects in the presentation elements library that meets the task requirements defined by the task model and the application requirements defined by the domain model *(see Figures 2 and 3; Page 74, "The designer should create mappings between platforms (or classes of platforms) and tasks (or sets of tasks). Additional mappings are then created between task elements and presentation structures that are optimized for a given set of tasks. We can assume these mappings are transitive; as a result, the appropriate presentation model is associated with each platform, based on mappings through the task model.")*; and

- displaying the set of presentations to a user interface designer *(see Page 72, "Under our proposed architecture, it is still left to the interface designer to specify a set of alternative presentation structures.")*.

However, Eisenstein does not disclose:

- storing the domain model, user model, task model, device model, and presentation elements library into computer readable media; and

- wherein the interaction delivery device is selected from a set of interaction delivery devices in the device model that meets the user requirements defined by the user model, and wherein the display object is selected from a set of display objects in the presentation elements library that meets the application requirements defined by the domain model.

Official Notice is taken that it is old and well-known within the computing art to store a computer program or components of the computer program in a computer readable media. In a computing system, components of a computer program are stored in a computer readable media so a processing unit may execute the instructions stored therein. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include storing the domain model, user model, task model, device model, and presentation elements library into computer readable media. The modification would be obvious because one of ordinary skill in the art would be motivated to execute the components of the computer program.

Puerta discloses:

- wherein the interaction delivery device is selected from a set of interaction delivery devices in the device model that meets the user requirements defined by the user model, and wherein the display object is selected from a set of display objects in the presentation elements library that meets the application requirements defined by the domain model *(see Page 173, "Each user may be involved in all tasks in a user-task model, or just in a subset of these tasks. The assignment of users to tasks is a mapping process."; Page 174, "An interface model must also define what objects are involved in the completion of the tasks represented in its user-task model component. Thus it is necessary to map objects to tasks in an interface model.").*

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Puerta into the teaching of Eisenstein to include wherein the interaction delivery device is selected from a set of interaction delivery devices in the device model that meets the user requirements defined by the user model, and wherein the display object is selected from a set of display objects in the presentation elements

library that meets the application requirements defined by the domain model. The modification would be obvious because one of ordinary skill in the art would be motivated to build and refine the interface model to produce a user interface *(see Puerta – Page 171)*.

As per **Claim 53**, the rejection of **Claim 52** is incorporated; and Eisenstein further discloses:

- responsive to at least one input from the user interface designer, generating the user interface *(see Figures 6 and 7)*.

As per **Claim 54**, the rejection of **Claim 52** is incorporated; and Eisenstein further discloses:

- wherein generating a set of presentations is performed by a reasoning engine *(see Figure 3; Page 72, "This mediator should determine the maximum usable screen resolution for the relevant device, and evaluate the amount of screen resolution required by each presentation structure alternative. It can then select the presentation structure that consumes an amount of screen resolution that falls just under the maximum (fig. 3).")*.

As per **Claim 55**, the rejection of **Claim 52** is incorporated; and Eisenstein further discloses:

- matching capabilities of the interactive delivery devices in the device model to task requirements defined in the task model *(see Figure 5; Page 74, "The designer should create mappings between platforms (or classes of platforms) and tasks (or sets of tasks). Additional*

mappings are then created between task elements and presentation structures that are optimized for a given set of tasks. We can assume these mappings are transitive; as a result, the appropriate presentation model is associated with each platform, based on mappings through the task model."); and

- matching capabilities of display objects in the presentation elements library to task requirements defined in the task model *(see Figure 5; Page 74, "Additional mappings are then created between task elements and presentation structures that are optimized for a given set of tasks.").*

However, Eisenstein does not disclose:

- matching capabilities of the interactive delivery devices in the device model to user requirements defined in the user model; and

- matching capabilities of display objects in the presentation elements library to application requirements defined in the domain model.

Puerta discloses:

- matching capabilities of the interactive delivery devices in the device model to user requirements defined in the user model *(see Page 173, "Each user may be involved in all tasks in a user-task model, or just in a subset of these tasks. The assignment of users to tasks is a mapping process.")*; and

- matching capabilities of display objects in the presentation elements library to application requirements defined in the domain model *(see Page 174, "An interface model must also define what objects are involved in the completion of the tasks represented in its user-task model component. Thus it is necessary to map objects to tasks in an interface model.").*

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Puerta into the teaching of Eisenstein to include matching capabilities of the interactive delivery devices in the device model to user requirements defined in the user model; and matching capabilities of display objects in the presentation elements library to application requirements defined in the domain model. The modification would be obvious because one of ordinary skill in the art would be motivated to build and refine the interface model to produce a user interface *(see Puerta – Page 171)*.

As per **Claim 59**, the rejection of **Claim 52** is incorporated; and Eisenstein further discloses:

- wherein the domain model, the user model, the task model, and the device model are expressed in a common notation format *(see Page 70, "The MIMIC modeling language meets these criteria, and it is the language we have chosen to use for UI modeling.")*.

As per **Claim 62**, Eisenstein discloses:

- wherein the domain model defines application requirements for which the user interface is to be used *(see Page 71, "It is also often appropriate to model the domain characteristics of the tasks supported by the UI. Such information often guides the selection of widgets.")*;

- wherein the user model defines user requirements of users who are to interface with the user interface *(see Page 71, "For many applications, it is essential to model the users*

themselves, especially when there are multiple users with different preferences, abilities, and privileges.");

- wherein the task model defines task requirements of tasks to be performed between the user interface and users who are to interface with the user interface *(see Page 71, "A task model is a structured representation of the tasks that the user of the software may want to perform. The task model is hierarchically decomposed into subtasks, and information regarding goals, preconditions, and postconditions may be supplied.")*;

- wherein the device model defines interaction delivery devices that are available to deliver the user interface *(see Page 70, "A platform model describes the various computer systems that may run a UI. This model includes information regarding the constraints placed on the UI by the platform. The platform model contains an element for each platform that is supported, and each element contains attributes describing features and constraints.")*;

- wherein the presentation elements library contains a set of display objects used to present information to or acquire information from a user of the user interface being designed *(see Figure 2; Page 70, "A presentation model describes the visual appearance of the user interface. The presentation model includes information describing the hierarchy of windows and their widgets (e.g., sliders, list boxes), stylistic choices, and the selection and placement of these widgets.")*;

- generating a set of presentations, wherein each presentation in the set of presentations comprises an interaction delivery device and a display object that meets a set of requirements of the interaction delivery device, wherein the interaction delivery device is selected from a set of interaction delivery devices in the device model that meets the task requirements defined by the

task model, and wherein the display object is selected from the set of display objects in the presentation elements library that meets the task requirements defined by the task model and the application requirements defined by the domain model *(see Figures 2 and 3; Page 74, "The designer should create mappings between platforms (or classes of platforms) and tasks (or sets of tasks). Additional mappings are then created between task elements and presentation structures that are optimized for a given set of tasks. We can assume these mappings are transitive; as a result, the appropriate presentation model is associated with each platform, based on mappings through the task model.")*; and

- displaying the set of presentations to a user interface designer *(see Page 72, "Under our proposed architecture, it is still left to the interface designer to specify a set of alternative presentation structures.")*.

However, Eisenstein does not disclose:

- storing a domain model, a user model, a task model, a device model, and a presentation elements library into computer readable media; and

- wherein the interaction delivery device is selected from a set of interaction delivery devices in the device model that meets the user requirements defined by the user model, and wherein the display object is selected from a set of display objects in the presentation elements library that meets the application requirements defined by the domain model.

Official Notice is taken that it is old and well-known within the computing art to store a computer program or components of the computer program in a computer readable media. In a computing system, components of a computer program are stored in a computer readable media so a processing unit may execute the instructions stored therein. Therefore, it would have been

obvious to one of ordinary skill in the art at the time the invention was made to include storing a domain model, a user model, a task model, a device model, and a presentation elements library into computer readable media. The modification would be obvious because one of ordinary skill in the art would be motivated to execute the components of the computer program.

Puerta discloses:

- wherein the interaction delivery device is selected from a set of interaction delivery devices in the device model that meets the user requirements defined by the user model, and wherein the display object is selected from a set of display objects in the presentation elements library that meets the application requirements defined by the domain model *(see Page 173, "Each user may be involved in all tasks in a user-task model, or just in a subset of these tasks. The assignment of users to tasks is a mapping process."; Page 174, "An interface model must also define what objects are involved in the completion of the tasks represented in its user-task model component. Thus it is necessary to map objects to tasks in an interface model.").*

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Puerta into the teaching of Eisenstein to include wherein the interaction delivery device is selected from a set of interaction delivery devices in the device model that meets the user requirements defined by the user model, and wherein the display object is selected from a set of display objects in the presentation elements library that meets the application requirements defined by the domain model. The modification would be obvious because one of ordinary skill in the art would be motivated to build and refine the interface model to produce a user interface *(see Puerta – Page 171).*

As per **Claim 63**, the rejection of **Claim 62** is incorporated; and Eisenstein further discloses:

- responsive to at least one input from the user interface designer, generating the user interface *(see Figures 6 and 7)*.

As per **Claim 64**, the rejection of **Claim 62** is incorporated; and Eisenstein further discloses:

- wherein generating a set of presentations is performed by a reasoning engine *(see Figure 3; Page 72, "This mediator should determine the maximum usable screen resolution for the relevant device, and evaluate the amount of screen resolution required by each presentation structure alternative. It can then select the presentation structure that consumes an amount of screen resolution that falls just under the maximum (fig. 3).")*.

As per **Claim 65**, the rejection of **Claim 62** is incorporated; and Eisenstein further discloses:

- matching capabilities of the interactive delivery devices in the device model to task requirements defined in the task model *(see Figure 5; Page 74, "The designer should create mappings between platforms (or classes of platforms) and tasks (or sets of tasks). Additional mappings are then created between task elements and presentation structures that are optimized for a given set of tasks. We can assume these mappings are transitive; as a result, the appropriate presentation model is associated with each platform, based on mappings through the task model.")*; and

- matching capabilities of display objects in the presentation elements library to task requirements defined in the task model *(see Figure 5; Page 74, "Additional mappings are then created between task elements and presentation structures that are optimized for a given set of tasks.")*.

However, Eisenstein does not disclose:

- matching capabilities of the interactive delivery devices in the device model to user requirements defined in the user model; and

- matching capabilities of display objects in the presentation elements library to application requirements defined in the domain model.

Puerta discloses:

- matching capabilities of the interactive delivery devices in the device model to user requirements defined in the user model *(see Page 173, "Each user may be involved in all tasks in a user-task model, or just in a subset of these tasks. The assignment of users to tasks is a mapping process.")*; and

- matching capabilities of display objects in the presentation elements library to application requirements defined in the domain model *(see Page 174, "An interface model must also define what objects are involved in the completion of the tasks represented in its user-task model component. Thus it is necessary to map objects to tasks in an interface model.")*.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Puerta into the teaching of Eisenstein to include matching capabilities of the interactive delivery devices in the device model to user requirements defined in the user model; and matching capabilities of display objects in the

presentation elements library to application requirements defined in the domain model. The modification would be obvious because one of ordinary skill in the art would be motivated to build and refine the interface model to produce a user interface *(see Puerta – Page 171)*.

As per **Claim 69**, the rejection of **Claim 62** is incorporated; and Eisenstein further discloses:

- wherein the domain model, the user model, the task model, and the device model are expressed in a common notation format *(see Page 70, "The MIMIC modeling language meets these criteria, and it is the language we have chosen to use for UI modeling.")*.

Claims 72-74 and 78 are computer readable medium claims corresponding to the method claims above (Claims 42, 43, 45, and 49) and, therefore, are rejected for the same reasons set forth in the rejections of Claims 42, 43, 45, and 49.

14. **Claims 46-48, 56-58, 66-68, and 75-77** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Eisenstein** in view of **Puerta** as applied to Claims 42, 52, 62, and 72 above, and further in view of **US 6,243,713 (hereinafter "Nelson")**.

As per **Claim 46**, the rejection of **Claim 42** is incorporated; however, Eisenstein and Puerta do not disclose:

- wherein generating a set of presentations further comprises scoring each presentation based at least in part on the application requirements defined in the domain model, the user requirements defined in the user model, and the task requirements defined in the task model.

Nelson discloses:

- wherein generating a set of presentations further comprises scoring each presentation based at least in part on the application requirements defined in the domain model, the user requirements defined in the user model, and the task requirements defined in the task model *(see Column 26: 44-48, "Once all candidate documents are scored, the final scores are sorted, and the documents presented to the user, providing the best scoring documents first. A threshold may be used to select a limited number of the best scoring documents if desired.").*

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Nelson into the teaching of Eisenstein to include wherein generating a set of presentations further comprises scoring each presentation based at least in part on the application requirements defined in the domain model, the user requirements defined in the user model, and the task requirements defined in the task model. The modification would be obvious because one of ordinary skill in the art would be motivated to enhance usability.

As per **Claim 47**, the rejection of **Claim 46** is incorporated; however, Eisenstein and Puerta do not disclose:

- sorting each presentation according to its score.

Nelson discloses:

- sorting each presentation according to its score *(see Column 26: 44-48, "Once all candidate documents are scored, the final scores are sorted, and the documents presented to the user, providing the best scoring documents first. A threshold may be used to select a limited number of the best scoring documents if desired.").*

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Nelson into the teaching of Eisenstein to include sorting each presentation according to its score. The modification would be obvious because one of ordinary skill in the art would be motivated to enhance usability.

As per **Claim 48**, the rejection of **Claim 42** is incorporated; however, Eisenstein and Puerta do not disclose:

- wherein displaying the set of presentations to a user interface designer further comprises displaying each presentation in a ranked list according to score.

Nelson discloses:

- wherein displaying the set of presentations to a user interface designer further comprises displaying each presentation in a ranked list according to score *(see Column 26: 44-48, "Once all candidate documents are scored, the final scores are sorted, and the documents presented to the user, providing the best scoring documents first. A threshold may be used to select a limited number of the best scoring documents if desired.").*

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Nelson into the teaching of Eisenstein to include wherein displaying the set of presentations to a user interface designer further comprises

displaying each presentation in a ranked list according to score. The modification would be obvious because one of ordinary skill in the art would be motivated to enhance usability.

As per **Claim 56**, the rejection of **Claim 52** is incorporated; however, Eisenstein and Puerta do not disclose:

- wherein generating a set of presentations further comprises scoring each presentation based at least in part on the application requirements defined in the domain model, the user requirements defined in the user model, and the task requirements defined in the task model.

Nelson discloses:

- wherein generating a set of presentations further comprises scoring each presentation based at least in part on the application requirements defined in the domain model, the user requirements defined in the user model, and the task requirements defined in the task model *(see Column 26: 44-48, "Once all candidate documents are scored, the final scores are sorted, and the documents presented to the user, providing the best scoring documents first. A threshold may be used to select a limited number of the best scoring documents if desired.").*

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Nelson into the teaching of Eisenstein to include wherein generating a set of presentations further comprises scoring each presentation based at least in part on the application requirements defined in the domain model, the user requirements defined in the user model, and the task requirements defined in the task model. The modification would be obvious because one of ordinary skill in the art would be motivated to enhance usability.

As per **Claim 57**, the rejection of **Claim 56** is incorporated; however, Eisenstein and Puerta do not disclose:

- sorting each presentation according to its score.

Nelson discloses:

- sorting each presentation according to its score *(see Column 26: 44-48, "Once all candidate documents are scored, the final scores are sorted, and the documents presented to the user, providing the best scoring documents first. A threshold may be used to select a limited number of the best scoring documents if desired.").*

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Nelson into the teaching of Eisenstein to include sorting each presentation according to its score. The modification would be obvious because one of ordinary skill in the art would be motivated to enhance usability.

As per **Claim 58**, the rejection of **Claim 52** is incorporated; however, Eisenstein and Puerta do not disclose:

- wherein displaying the set of presentations to a user interface designer further comprises displaying each presentation in a ranked list according to score.

Nelson discloses:

- wherein displaying the set of presentations to a user interface designer further comprises displaying each presentation in a ranked list according to score *(see Column 26: 44-48, "Once all candidate documents are scored, the final scores are sorted, and the documents*

presented to the user, providing the best scoring documents first. A threshold may be used to select a limited number of the best scoring documents if desired.").

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Nelson into the teaching of Eisenstein to include wherein displaying the set of presentations to a user interface designer further comprises displaying each presentation in a ranked list according to score. The modification would be obvious because one of ordinary skill in the art would be motivated to enhance usability.

As per **Claim 66**, the rejection of **Claim 62** is incorporated; however, Eisenstein and Puerta do not disclose:

- wherein generating a set of presentations further comprises scoring each presentation based at least in part on the application requirements defined in the domain model, the user requirements defined in the user model, and the task requirements defined in the task model.

Nelson discloses:

- wherein generating a set of presentations further comprises scoring each presentation based at least in part on the application requirements defined in the domain model, the user requirements defined in the user model, and the task requirements defined in the task model *(see Column 26: 44-48, "Once all candidate documents are scored, the final scores are sorted, and the documents presented to the user, providing the best scoring documents first. A threshold may be used to select a limited number of the best scoring documents if desired.").*

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Nelson into the teaching of Eisenstein to

include wherein generating a set of presentations further comprises scoring each presentation based at least in part on the application requirements defined in the domain model, the user requirements defined in the user model, and the task requirements defined in the task model. The modification would be obvious because one of ordinary skill in the art would be motivated to enhance usability.

As per **Claim 67**, the rejection of **Claim 66** is incorporated; however, Eisenstein and Puerta do not disclose:

- sorting each presentation according to its score.

Nelson discloses:

- sorting each presentation according to its score *(see Column 26: 44-48, "Once all candidate documents are scored, the final scores are sorted, and the documents presented to the user, providing the best scoring documents first. A threshold may be used to select a limited number of the best scoring documents if desired.").*

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Nelson into the teaching of Eisenstein to include sorting each presentation according to its score. The modification would be obvious because one of ordinary skill in the art would be motivated to enhance usability.

As per **Claim 68**, the rejection of **Claim 62** is incorporated; however, Eisenstein and Puerta do not disclose:

- wherein displaying the set of presentations to a user interface designer further comprises displaying each presentation in a ranked list according to score.

Nelson discloses:

- wherein displaying the set of presentations to a user interface designer further comprises displaying each presentation in a ranked list according to score *(see Column 26: 44-48, "Once all candidate documents are scored, the final scores are sorted, and the documents presented to the user, providing the best scoring documents first. A threshold may be used to select a limited number of the best scoring documents if desired.").*

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Nelson into the teaching of Eisenstein to include wherein displaying the set of presentations to a user interface designer further comprises displaying each presentation in a ranked list according to score. The modification would be obvious because one of ordinary skill in the art would be motivated to enhance usability.

Claims 75-77 are rejected for the same reasons set forth in the rejections of Claims 46-48.

15. **Claims 50, 60, 70, and 79** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Eisenstein** in view of **Puerta** as applied to Claims 49, 59, 69, and 78 above, and further in view of **"Resource Description Framework (RDF) Model and Syntax," 1997 (hereinafter "RDF1997")**.

As per **Claim 50**, the rejection of **Claim 49** is incorporated; however, Eisenstein and Puerta do not disclose:

- wherein the common notation format adheres to the Resource Description Framework specification.

RDF1997 discloses:

- wherein the common notation format adheres to the Resource Description Framework specification *(see Section 1, "RDF metadata can be used in a variety of application areas ...")*.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of RDF1997 into the teaching of Eisenstein to include wherein the common notation format adheres to the Resource Description Framework specification. The modification would be obvious because one of ordinary skill in the art would be motivated to provide interoperability between applications that exchange machine understandable information on the Web *(see RDF1997 – Section 1)*.

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As per **Claim 60**, the rejection of **Claim 59** is incorporated; however, Eisenstein and Puerta do not disclose:

- wherein the common notation format adheres to the Resource Description Framework specification.

RDF1997 discloses:

- wherein the common notation format adheres to the Resource Description Framework specification *(see Section 1, "RDF metadata can be used in a variety of application areas ...")*.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of RDF1997 into the teaching of Eisenstein to include wherein the common notation format adheres to the Resource Description Framework specification. The modification would be obvious because one of ordinary skill in the art would be motivated to provide interoperability between applications that exchange machine understandable information on the Web *(see RDF1997 – Section 1)*.

As per **Claim 70**, the rejection of **Claim 69** is incorporated; however, Eisenstein and Puerta do not disclose:

- wherein the common notation format adheres to the Resource Description Framework specification.

RDF1997 discloses:

- wherein the common notation format adheres to the Resource Description Framework specification *(see Section 1, "RDF metadata can be used in a variety of application areas ...")*.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of RDF1997 into the teaching of Eisenstein to include wherein the common notation format adheres to the Resource Description Framework specification. The modification would be obvious because one of ordinary skill in the art would be motivated to provide interoperability between applications that exchange machine understandable information on the Web *(see RDF1997 – Section 1)*.

Claim 79 is rejected for the same reason set forth in the rejection of Claim 50.

16. **Claims 51, 61, 71, and 80** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Eisenstein** in view of **Puerta** as applied to Claims 42, 52, 62, and 72 above, and further in view of **"Extensible Markup Language (XML) 1.0," 1998 (hereinafter "XML1998")**.

As per **Claim 51**, the rejection of **Claim 42** is incorporated; however, Eisenstein and Puerta do not disclose:

- wherein each presentation is an XML file.

XML1998 discloses:

- wherein each presentation is an XML file *(see Section 1, "Extensible Markup Language, abbreviated XML, describes a class of data objects called XML documents and partially describes the behavior of computer programs which process them.").*

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of XML1998 into the teaching of Eisenstein to include wherein each presentation is an XML file. The modification would be obvious because one of ordinary skill in the art would be motivated to support a wide variety of applications *(see XML1998 – Section 1.1).*

As per **Claim 61**, the rejection of **Claim 52** is incorporated; however, Eisenstein and Puerta do not disclose:

- wherein each presentation is an XML file.

XML1998 discloses:

- wherein each presentation is an XML file *(see Section 1, "Extensible Markup Language, abbreviated XML, describes a class of data objects called XML documents and partially describes the behavior of computer programs which process them.").*

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of XML1998 into the teaching of Eisenstein to include wherein each presentation is an XML file. The modification would be obvious because one of ordinary skill in the art would be motivated to support a wide variety of applications *(see XML1998 – Section 1.1).*

As per **Claim 71**, the rejection of **Claim 62** is incorporated; however, Eisenstein and Puerta do not disclose:

- wherein each presentation is an XML file.

XML1998 discloses:

- wherein each presentation is an XML file *(see Section 1, "Extensible Markup Language, abbreviated XML, describes a class of data objects called XML documents and partially describes the behavior of computer programs which process them.").*

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of XML1998 into the teaching of Eisenstein to include wherein each presentation is an XML file. The modification would be obvious because one of ordinary skill in the art would be motivated to support a wide variety of applications *(see XML1998 – Section 1.1).*

Claim 80 is rejected for the same reason set forth in the rejection of Claim 51.

Response to Arguments

17. Applicant's arguments filed on October 19, 2007 have been fully considered, but they are not persuasive.

In the remarks, Applicant argues that:

a) In the Office Action, the Examiner alleged that Eisenstein's disclosed platform model was equivalent to the claimed device model. According to Eisenstein, a "platform model describes the various computer systems that may run a UI... The platform model contains an element for each platform that is supported, and each element contains attributes describing features and constraints." (Eisenstein at 70) As examples of platforms, Eisenstein lists palmtop computers, laptop computers, and desktop computers.

In contrast, Applicant's device model characterizes interaction delivery devices to support a UI. Quite simply, Eisenstein has nothing to do with interaction delivery devices. The Applicant's interaction delivery devices include, for example, specifications and characteristics of interactive delivery devices that may be used to deliver a UI being designed, when the UI is invoked by an application. These specifications may include capabilities and modalities that are supported by the available interaction delivery devices relevant to the application. The capabilities may include bandwidth, memory, screen, line of display, width of display, illumination, etc. The modalities may include visual, audible, etc. (See Applicants' Specification, par. 0039).

While Eisenstein's platform model focuses on computer systems used to present the UI to the user, it in no way involves delivery of the UI or modalities employed by the UIs. Therefore, Eisenstein does not disclose or suggest Applicants' device model.

Examiner's response:

a) Applicant asserts that the platform model of Eisenstein does not involve in the delivery (emphasis in original) of the UI or modalities employed by the UIs. Examiner disagrees. The term "delivery" is not defined by the claims nor does the specification provide any clarification for ascertaining the requisite meaning. It is understood that Applicants can be their own lexicographers. According to MPEP § 2173.01, they can define in the claims what they regard as their invention essentially in whatever terms they choose so long as any special meaning assigned to a term is clearly set forth in the specification. The particular section of interest of the MPEP is reproduced below with emphasis added for Applicant's convenience:

> **2173.01 [R-2] Claim Terminology**
> A fundamental principle contained in 35 U.S.C. 112, second paragraph is that applicants are their own lexicographers. They can define in the claims what they regard as their invention essentially in whatever terms they choose so long as **>any special meaning assigned to a term is clearly set forth in the specification. See MPEP § 2111.01.< Applicant may use functional language, alternative expressions, negative limitations, or any style of expression or format of claim which makes clear the boundaries of the subject matter for which protection is sought. As noted by the court in *In re Swinehart*, 439 F.2d 210, 160 USPQ 226 (CCPA 1971), a claim may not be rejected solely because of the type of language used to define the subject matter for which patent protection is sought.

The specification (namely, paragraph 39 on page 23, lines 3-14) lacks any clarification on the claim scope of the term "delivery" as intended by the Applicant to cover. The noted paragraph merely lists the various capabilities and modalities that are part of an interaction

delivery device's specification. Thus, absent such an explicit and deliberate definition for the term "delivery," it is treated under the broadest reasonable interpretation. And accordingly, the platform model of Eisenstein describes the various computer systems (interaction delivery devices) that may run a UI (deliver the user interface). One of ordinary skill in the art would clearly associate the platform model of Eisenstein with the device model as required by the claim.

Furthermore, the plain language of the claim expressly recites that the device model "defines interaction delivery devices that are available to deliver the user interface." The claim scope does not require the additional limitation of "specifications and characteristics of the interactive delivery devices that may be used to deliver a UI being designed" and other limitations pertaining to the device model and interaction delivery devices from the specification. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

For at least the reasons set forth above, the rejections made under 35 U.S.C. 103(a) over the prior art of record with regard to Claims 42, 52, 62, and 72 are proper and, therefore, maintained.

Note that Applicant did not traverse the Examiner's assertion of Official Notice with regard to Claims 52 and 62. Therefore, the "old and well-known within the computing art" statement is taken to be admitted prior art because Applicant has failed to traverse the Examiner's assertion of Official Notice (see MPEP § 2144.03).

Conclusion

18. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Qing Chen whose telephone number is 571-270-1071. The Examiner can normally be reached on Monday through Thursday from 7:30 AM to 4:00 PM. The Examiner can also be reached on alternate Fridays.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Wei Zhen, can be reached on 571-272-3708. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the TC 2100 Group receptionist whose telephone number is 571-272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

QC
December 11, 2007

WEI ZHEN
SUPERVISORY PATENT EXAMINER